UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DATE September 16, 1981

SUBJECT Compliance Sampling Inspection at the Park Corporation Landfill in Brook Park, OH

FROM Daniel C. Watson, Physical Scientist Daniel C Watson
THRU: A. R. Winklhofer, Director, EDO

TO William H. Miner, 5EWHME
ATTN: Joel Balmat

Acting on Joel Balmat's request dated March 12, 1981, a compliance sampling inspection was conducted by the writer and Joe Good of EDO at the Park Corporation landfill in Brook Park, Ohio on April 8, 1981.

The following samples were collected:

Sample Number	Type	Location
81EW02S01	water	west bank of Abrams Creek above the landfill at Rocky River Drive
81EW02S02	water	west bank of Abrams Creek below the landfill at the Grayton Road bridge
81EW02D03	water	duplicate of 81EW02S02
81EW02S04	water	from a gully in the fill near the middle of the fill site along Abrams Creek
81EW02S06	sediment	collected at the location of sample 81EW02S04
81EW02S08	foundry sand	collected at the location of sample 81EW02S04

The analytical results from these samples are found in attached tables I and II. Sediment sample 81EW02S06 had a COD of 24,500 ppm. This is most likely due to the metals concentrations shown in Table II. An E.P. extraction followed by an ICAP metals scan was performed on the foundry sand sample 81EW02S08. No measurable levels of metals were extracted from the foundry sand sample. As is shown in the tables, most metals measured downstream from the landfill exist in higher or equal concentrations upstream from the landfill. This indicates that the source of this metals contamination is upstream of the landfill. After reviewing the discharger files at EDO the writer determined that the most likely sources of this contamination are the Brook Park STP, the Middleburg Heights STP, and FOSECO. The only metals that increased in Abrams Creek after it passed through the landfill were vanadium, chloride, and fluoride and these differences were negligible. The

leachate sample contained the metals found upstream, again in lower concentrations, except for vanadium, chloride, fluoride, sulfate, and TKN and these again were negligible increases.

The foundry sand is leaching into Abrams Creek and diking or other precautions should be taken to prevent this. Also, water, sediment, and sand samples should be collected at a future date and analyzed for PCB concentrations. In the past, a PCB binder was used in foundry sand. There were also many oil soaked wooden blocks taken from the Cleveland Tank Plant floor and dumped in the landfill. Samples of the oil from these blocks should also be analyzed for PCB content. An inspection should be conducted at FOSECO Incorporated at 20200 Sheldon Road in Brook Park, Ohio, to determine what pollutants they are contributing to Abrams Creek.

Attachments

Table I

Park Corporation Landfill CSI 4/8/81
General Chemistry Sampling Results

Parameter	Abrams Creek Upstream (ppm) 81EW02S01	Abrams Creek Downstream (ppm) 81EW02S01	Leachate (ppm) 81EW02S04
COD	41	36	45
TOC	14	13	14
Total Suspended Solids	25	19	18
Total Dissolved Solids	781	776	785
BOD_5	5.6	4.6	4.6
Oil and Grease	< 1	< 1	2
Phenolics	.004	.004	.005

Table II

Park Corporation Landfill CSI 4/8/81
Sampling Results for Metals

Metal	Upstream (ppb) 81EW02S01	Downstream (ppb) 81EW02S02	Leachate (ppb) 81EW02S04	Sediment (ppb) 81EW02S06
Calcium	82.3 ppm	76.8 ppm	76.7 ppm	12 ppm
Magnesium	18.7 ppm	17.5 ppm	17.6	3.3 ppm
Sodium	122 ppm	111 ppm	114 ppm	0.32 ppm
Aluminum	864	621	685	5.8 ppm
Boron	504	< 80	267	8.1
Barium	38.8	29.3	34.0	41
Copper	8.49	< 6.00	6.34	170
Iron	1350	1050	1170	67 ppm
Manganese	311	268	284	610
Molybdenum	24.5	< 10.0	18	9.3
Nickel	17.0	< 15.0	< 15	83
Vanadium	6.09	7.29	6.42	15
Zinc	119	42.8	85.6	0.11 ppm
Chloride	126 ppm	133 ppm	129 ppm	
Fluoride	.52	.63	.61	
Sulfate	244 ppm	241 ppm	253 ppm	
Nitrate+Nitrite as N	0.45 ppm	0.57 ppm	0.39 ppm	16.4 ppm
TKN	9.18 ppm	9.15 ppm	9.22 ppm	300 ppm
Total Phosphorus	1.22 ppm	0.99 ppm	1.00 ppm	150 ppm
Potassium				1.1 ppm
Cobalt				8.9
Chromium				150
Lithium				12
Lead				22
Strontium				38
Titanium				61
Yttrium				6.3